

Title (en)

Hydrogen storage using carbon-metal hybrid compositions

Title (de)

Wasserstoffspeicherung, die Kohlenstoff-Metall Hybridzusammensetzungen verwendet

Title (fr)

Stockage d'hydrogène utilisant un composé hybride de carbone-métal

Publication

**EP 1209119 B1 20060823 (EN)**

Application

**EP 01127351 A 20011121**

Priority

- US 25275100 P 20001122
- US 98808401 A 20011119

Abstract (en)

[origin: EP1209119A2] A process is provided for the transport and storage of hydrogen by reversible sorption and containment within carbon-metal hybrid materials. The process comprises contacting a carbon-metal hybrid composition with a hydrogen-containing gas at conditions of temperature and pressure whereby the carbon-metal hybrid composition sorbs the hydrogen gas. The hydrogen that is sorbed in the carbon-metal composition is subsequently released by lowering the H<sub>2</sub> pressure and/or increasing the temperature to levels which cause desorption of the hydrogen gas.

IPC 8 full level

**C01B 3/00** (2006.01); **F17C 11/00** (2006.01); **B01J 20/02** (2006.01); **B01J 20/20** (2006.01); **C01B 3/02** (2006.01)

CPC (source: EP KR US)

**B82Y 30/00** (2013.01 - EP US); **C01B 3/001** (2013.01 - EP US); **C01B 3/0021** (2013.01 - EP US); **C01B 3/0078** (2013.01 - EP US); **C01B 3/02** (2013.01 - KR); **B82Y 40/00** (2013.01 - KR); **Y02E 60/32** (2013.01 - EP US); **Y10S 420/90** (2013.01 - EP US); **Y10S 977/742** (2013.01 - EP US); **Y10S 977/748** (2013.01 - EP US); **Y10S 977/842** (2013.01 - EP US); **Y10S 977/948** (2013.01 - EP US)

Cited by

EP1573757A4; RU2477704C2; DE102005004589A1; DE102005004589B4; WO2004059670A1; WO2009057127A1; WO2005104179A3; WO2004048259A1; WO2004113222A1

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**EP 1209119 A2 20020529**; **EP 1209119 A3 20040114**; **EP 1209119 B1 20060823**; AT E337266 T1 20060915; CA 2363456 A1 20020522; CA 2363456 C 20060131; DE 60122456 D1 20061005; DE 60122456 T2 20061214; JP 2002228097 A 20020814; KR 100444648 B1 20040821; KR 20020040606 A 20020530; MX PA01011908 A 20020722; US 2002096048 A1 20020725; US 6596055 B2 20030722

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